NATIONAL SEVERE STORMS LABORATORY

Norman, Oklahoma

Mission

The mission of the National Severe Storms Laboratory (NSSL) is to enhance the NOAA's capabilities to provide accurate and timely forecasts and warnings of hazardous weather events (for example, blizzards, ice storms, flash floods, tornadoes, lightning). The mission is accomplished in partnership with the National Weather Service (NWS), through a balanced program of research to advance the understanding of weather processes; research to improve forecasting and warning techniques; development of operational applications; and the transfer of understanding, techniques, and applications to users.

Brief History

NSSL was formed in 1964 as an outgrowth of the Weather Bureau's National Severe Storms Project (NSSP). NSSP was part of the Severe Local Storms Forecasting unit after the unit moved to Kansas City, Missouri, from Washington, D.C. A field site was soon established on the former North Base, U.S. Naval Air Station, Norman, Oklahoma. This site later became the NSSL headquarters. During its early life, NSSL was principally a radar development laboratory and field observational facility for the Weather Bureau, which became part of the Environmental Science Services Administration (ESSA) in 1965 and, finally, NOAA in 1970. NSSL is now co-located with the Norman NWS Forecast Office, the Storm Prediction Center of the NWS National Centers for Environmental Prediction (NCEP), the NWS NEXRAD (WSR-88D), Radar Operations Center, and the NWS Warning Decision Training Branch.

Financial Profile (Dollars in Thousands)

Fiscal Year	Permanent Funding	Other NOAA	Non-NOAA	Pass Through	**TOTAL**
FY 2001	5898.5	2341.9	6821.2	1051.1	16112.7
FY 2002	6357	4379	5828	420	16984
FY 2003	6437.5	4022.6	5005.1	548.8	16014

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Personnel Data

FY	FEDERAL EMPLOYEES	JOINT INSTITUTE	Contractors	TOTAL
FY 2000	52	92	0	144
FY 2001	49	88	0	137
FY 2002	50	85	0	135
FY 2003	47	81	0	128

Average Age Federal/Scientific/Engineering and Technical Staff	51
Average Age of JI/Scientific/Engineering and Technical Staff	37

Federal Staff	PhD	42%	MS	37%
JI Staff	PhD	20%	MS	31%

NATIONAL SEVERE STORMS LABORATORY
PARTNERSHIPS

PARTNERSHIPS	IDENTIFY (and explain)
JOINT INSTITUTES	CIMMS
PARTNERSHIPS WITH OTHER LABS	* FSL (International radar research) * ETL (PACJET analysis) * GLERL (hydrometerology of Great Lakes) * PMEL (data management and access)
OTHER OAR PROGRAMS	OGP, Sea Grant

OTHER NOAA RELATIONSHIPS	* NWS forecast offices (warning improvement: Atlanta, Jackson, Wichita, Norman) * NWS Regional Offices (Southern, Central, Western) * NWS HQ (OS&T, OH: multi-sensor applications, hydrometeorology) * NWS NCEP/EMC (modeling research) * NWS Storm Prediction Center (forecast improvements) * NWS Warning Decision Training Branch * ESDIM Program (data access and rescue) * HPCC Program (networking applications; integration of satellite and radar data)
OTHER FEDERAL AGENCIES	* DoT: FAA (Phased Array Radar, Aviation safety, NEXRAD improvements). Highway Safety (winter weather) * Navy (Phased Array Radar, modeling) * Army (radar detected bio/chem releases) * Air Force (NEXRAD improvements) * DoD (Open PUP development for USAF and US Navy) * NASA Goddard (modeling studies; joint Columbia disaster investigation)
STATE AGENCIES	Oklahoma: DEQ, Regents for Higher Education, Oklahoma Climatological Survey
LOCAL PARTNERSHIPS	* CRADA (severe weather algorithms): Weather Decision Technologies; Landmark, Inc. * Lockheed Martin, Inc. * Business and Commerce, Inc. * Georgia Technology Research Institute (testing warning systems for State of Georgia) * Vieux & Associates (hydrometeorology) * NCAR (BAMEX, HIAPER, USWRP)
UNIVERSITY PARTNERSHIPS	* Modeling: Desert Research Institute, U. of Nevada * Mobile radar: OU, TAMU, Texas Tech * Lightning research: Purdue, Pretoria, New Mexico Tech, Iowa State, UC-Davis. * Mesoscale convection and convection associated with mountainous areas: UCLA, U. Illinois, U. Washington. * Winter weather: Utah. * Georgia Tech University (NSF funded data visualization project for warning decision support systems) * Colorado State University * South Dakota School of Mining & Technology

INTERNATIONAL	* EMCWF (modeling) * India (joint radar research) * Australian Weather Bureau (radar based warning systems collaboration) * Hydrometeorological research and technology transfer: Taiwan and Korea(through FSL). China. * Taiwan (MAP field program, analysis). * Modeling: Japan Met. Agency (numerical prediction). Switzerland (MeteoSwiss). Sweden (Rossby Centre at Swedish Met. and Hydro. Institute). Germany (German Aerospace Center Institute for Atmos. Res.) Deutscher Wetterdienst. * SALLJEX field experiment: U. of Buenos Aires (Argentina), U. of Sao Paulo (Brazil), U. of Uhah, U. of San Andres (Bolivia), U. of Chile. * PACS-SONET field program: (Technology transfer for building observation networks): U. of Piura (Peru), National U. of Paraguay, SENAMHI (Peru), AASANA (Bolivia), Venezuelan National Aviation Weather Service, Mexican Navy (Weather Service), INETER (Nicaragua), DINAC (Paraguay Met Service), INAMHI (Ecuadorean Wx Service), CIOH (Colombian Navy Oceanographic Research Institute)